

REMARKS

In view of the following discussion, the Applicants submit that none of the claims now pending in the application are unpatentable under the provisions of 35 U.S.C. § 103. Thus, the Applicants believe that all of these claims are now in allowable form.

I. REJECTION OF CLAIMS 13, 16, 18 AND 19 UNDER 35 U.S.C. § 103

A. Claim 16

The Examiner has rejected claim 16 under 35 U.S.C. § 103 as being unpatentable over Markwell et al. (US Patent 6,078,269, issued June 20, 2000, hereinafter referred to as "Markwell")¹ in view of Burnett, et al. (U.S. Patent No. 5,675,311, issued October 7, 1997). The Applicants respectfully traverse the rejection.

Markwell teaches a battery-powered RF-interconnected sensor system. Specifically, Markwell teaches a wireless detector that is capable of communicating with other wireless detectors using RF communication. The detector may comprise a horn capable of emitting an audible alarm, where the pattern of the alarm/horn may be varied. (See Markwell, Abstract)

Burnett teaches a frequency sweeping audio signal device. An audio signal is generated that sweeps from a lower frequency to a higher frequency in a substantially linear function. (See Burnett, Abstract).

The Examiner's attention is directed to the fact that Markwell and Burnett, alone or in any permissible combination, fails to teach or suggest an alarm unit that utilizes an application specific integrated circuit (ASIC) for selecting an audio frequency for an audio warning signal, where the audio frequency is a sweep frequency of approximately 2500 Hertz (Hz) to 4000 Hz, as positively claimed by Applicants in independent claim 16, which recites:

¹ The Applicants note that the Examiner actually cited Markwell as having a patent number of 6,532,406 in Paragraph 2 of the Office Action. However, patent number 6,532,406 refers to a vehicle computer system by Schmedding et al. Applicants believe that the Examiner is actually referring to patent number 6,078,269 instead. As such, Applicants' response below is directed to Markwell 6,078,269.

16. An alarm unit, comprising:
 - an audio circuit for generating an audio warning signal; and
 - an application specific integrated circuit (ASIC) coupled to said audio circuit, for triggering said audio warning signal, wherein said ASIC selects an audio frequency for said audio warning signal, wherein said audio frequency being a sweep frequency of approximately 2500 Hertz (Hz) to 4000 Hz. (Emphasis Added)

In one embodiment, the Applicants teach an alarm unit that utilizes an application specific integrated circuit (ASIC) for selecting an audio frequency for an audio warning signal, where the audio frequency is a sweep frequency of approximately 2500 Hertz (Hz) to 4000 Hz. Utilizing ASIC has several exemplary advantages over prior alarm units such as reducing the number of components that are necessary to provide alarm tone frequencies. (See e.g., Applicants' Specification, Page 18) In one embodiment, the frequencies are implemented as sweep frequencies, where the alarm tone produces two cycles of each frequency specified, in accordance with a selected set of frequencies. For example, the tone starts at the highest frequency and after two cycles is decremented until the minimum frequency is reached, producing two cycles at each frequency. The frequency is then incremented until the maximum frequency is reached again producing two cycles at each frequency. This sweep frequency is then repeated as long as the alarm tone is enabled. (See e.g., Applicants' Specification, Page 18)

In contrast, the alleged combination (as taught by Markwell) fails to render obvious the Applicants' disclosure because the alleged combination fails to teach or suggest fails to teach or suggest an alarm unit that utilizes an application specific integrated circuit (ASIC) for selecting an audio frequency for an audio warning signal, where the audio frequency is a sweep frequency of approximately 2500 Hertz (Hz) to 4000 Hz. Nowhere does Markwell specify that the available alarm frequencies are sweep frequencies.

Moreover, Burnett fails to bridge the substantial gap left by Markwell because Burnett also fails to teach or suggest an alarm unit that utilizes an

application specific integrated circuit (ASIC) for selecting an audio frequency for an audio warning signal, where the audio frequency is a sweep frequency of approximately 2500 Hertz (Hz) to 4000 Hz. Burnett explicitly teaches that the sweep frequency is centered around 1,500 Hz. (See Burnett, col. 4, ll. 11-14). Moreover, Burnett only teaches a functioning range of between 1,000 Hz to 2,000 Hz. (See Burnett, col. 6, ll. 4-6). In stark contrast, the Applicants teach a sweep frequency of approximately 2500 Hertz (Hz) to 4000 Hz.

The Examiner responds by asserting that one having ordinary skill in the art would have found it obvious to select any appropriate resistors and capacitor values that are suitable for generating any appropriate sweep frequency that the user desired. (See Office Action, p. 3, ll. 4-7). The Applicants respectfully disagree.

Based upon the teachings of Burnett, one of ordinary skill in the art would be able to use any combination of resistors and capacitor values to obtain a frequency range of between 1,000 Hz to 2,000 Hz and centered around 1,500 Hz. The Examiner's attention is directed to the fact that the frequency range taught by Burnett and the Applicants' claims do not overlap nor are they even close. The Applicants' disclosure operates in a frequency range that is magnitudes higher than that taught by Burnett.

Thus, based upon the teachings of Burnett one of ordinary skill in the art would not have been able to use any combination of resistors or capacitor values to obtain a frequency range of approximately 2500 Hertz (Hz) to 4000 Hz, as recited in the Applicants' claims. Consequently, the Examiner is requested to provide at least one reference that teaches this limitation. Therefore, the Applicants respectfully submit that claim 16 fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder.

B. Claim 13

The Examiner has rejected claim 13 under 35 U.S.C. § 103 as being unpatentable over Markwell in view of Burnett and further in view of Bechtel (U.S.

Patent No. 5,896,092, issued on April 20, 1999, hereinafter referred to as "Bechtel"). The Applicants respectfully traverse the rejection.

The teachings of Markwell and Burnett are discussed above. Bechtel teaches an alarm system adapted for use in attracting attention of hearing impaired persons and/or for use in attracting the attention of persons in high decibel areas. (See Bechtel, Abstract).

The Examiner's attention is directed to the fact that Markwell, Burnett and Bechtel, alone or in any permissible combination, fail to teach or suggest an alarm unit that utilizes an application specific integrated circuit (ASIC) for selecting an audio frequency for an audio warning signal, where the audio frequency is a sweep frequency, as positively claimed by Applicants in claim 13, which recites:

13. An alarm unit, comprising:
 - a flash circuit having a flashtube for generating a flash;
 - an application specific integrated circuit (ASIC) coupled to said flash circuit, for triggering said flash; and
 - an audio circuit, coupled to said ASIC, where said audio circuit generates an audio warning signal, wherein said ASIC selects an audio frequency for said audio warning signal, wherein said audio frequency being a sweep frequency of approximately 2500 Hertz (Hz) to 4000 Hz. (Emphasis Added)

In one embodiment, the Applicants teach an alarm unit that utilizes an application specific integrated circuit (ASIC) for selecting an audio frequency for an audio warning signal, where the audio frequency is a sweep frequency of approximately 2500 Hertz (Hz) to 4000 Hz. Utilizing ASIC has several exemplary advantages over prior alarm units such as reducing the number of components that are necessary to provide alarm tone frequencies. (See e.g., Applicants' Specification, Page 18) In one embodiment, the frequencies are implemented as sweep frequencies, where the alarm tone produces two cycles of each frequency specified, in accordance with a selected set of frequencies. For example, the tone starts at the highest frequency and after two cycles is decremented until the minimum frequency is reached, producing two cycles at each frequency. The

frequency is then incremented until the maximum frequency is reached again producing two cycles at each frequency. This sweep frequency is then repeated as long as the alarm tone is enabled. (See e.g., Applicants' Specification, Page 18)

In contrast, the alleged combination (as taught by Markwell) fails to render obvious the Applicants' disclosure because the alleged combination fails to teach or suggest fails to teach or suggest an alarm unit that utilizes an application specific integrated circuit (ASIC) for selecting an audio frequency for an audio warning signal, where the audio frequency is a sweep frequency of approximately 2500 Hertz (Hz) to 4000 Hz. Nowhere does Markwell specify that the available alarm frequencies are sweep frequencies.

Moreover, Burnett fails to bridge the substantial gap left by Markwell because Burnett also fails to teach or suggest an alarm unit that utilizes an application specific integrated circuit (ASIC) for selecting an audio frequency for an audio warning signal, where the audio frequency is a sweep frequency of approximately 2500 Hertz (Hz) to 4000 Hz. Burnett explicitly teaches that the sweep frequency is centered around 1,500 Hz. (See Burnett, col. 4, ll. 11-14). Moreover, Burnett only teaches a functioning range of between 1,000 Hz to 2,000 Hz. (See Burnett, col. 6, ll. 4-6).

The Examiner responds by asserting that one having ordinary skill in the art would have found it obvious to select any appropriate resistors and capacitor values that are suitable for generating any appropriate sweep frequency that the user desired. (See Office Action, p. 3, ll. 4-7). The Applicants respectfully disagree.

Based upon the teachings of Burnett, one of ordinary skill in the art would be able to use any combination of resistors and capacitor values to obtain a frequency range of between 1,000 Hz to 2,000 Hz and centered around 1,500 Hz. The Examiner's attention is directed to the fact that the frequency range taught by Burnett and the Applicants' claims do not overlap nor are they even close. The Applicants' disclosure operates in a frequency range that is magnitudes higher than that taught by Burnett.

Thus, based upon the teachings of Burnett one of ordinary skill in the art would not have been able to use any combination of resistors or capacitor values to obtain a frequency range of approximately 2500 Hertz (Hz) to 4000 Hz, as recited in the Applicants' claims. Consequently, the Examiner is requested to provide at least one reference that teaches this limitation.

In addition, Bechtel fails to bridge the substantial gap left by Markwell and Burnett because Bechtel also fails to teach or suggest an alarm unit that utilizes an application specific integrated circuit (ASIC) for selecting an audio frequency for an audio warning signal, where the audio frequency is a sweep frequency of approximately 2500 Hertz (Hz) to 4000 Hz. Bechtel only teaches an alarm system adapted for use in attracting attention of hearing impaired persons and/or for use in attracting the attention of persons in high decibel areas. Therefore, the Applicants respectfully submit that claim 13 fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder.

C. Claim 18

The Examiner rejected claim 18 in the Office Action under 35 U.S.C. § 103 as being unpatentable over Markwell in view of Burnett and Bechtel and in further view of Park, et al. (U.S. Patent No. 5,694,118, issued on December 2, 1997, hereinafter referred to as "Park"). The Applicants respectfully traverse the rejection.

The teachings of Markwell, Burnett and Bechtel are discussed above. Park teaches a gas detection and alarm system for monitoring gas such as carbon monoxide. (See Park, Abstract).

The Examiner's attention is directed to the fact that Markwell, Burnett, Bechtel and Park, alone or in any permissible combination, fail to disclose the novel alarm unit that utilizes an application specific integrated circuit (ASIC) for selecting an audio frequency for an audio warning signal, where the audio frequency is a sweep frequency of approximately 2500 Hertz (Hz) to 4000 Hz, as positively claimed by the Applicants' independent claim 13. (See *supra*). As discussed above, the alleged combination (as taught by Markwell, Burnett and

Bechtel) simply does not teach or suggest an alarm unit that utilizes an application specific integrated circuit (ASIC) for selecting an audio frequency for an audio warning signal, where the audio frequency is a sweep frequency of approximately 2500 Hertz (Hz) to 4000 Hz.

Moreover, Park does not bridge the substantial gap left by Markwell, Burnett and Bechtel because Park also fails to teach or suggest an alarm unit that utilizes an application specific integrated circuit (ASIC) for selecting an audio frequency for an audio warning signal, where the audio frequency is a sweep frequency of approximately 2500 Hertz (Hz) to 4000 Hz. Park only teaches a gas detection and alarm system for monitoring gas such as carbon monoxide. Thus, for all of the above reasons, the Applicants respectfully contend that claim 13 is not made obvious by the combination of Markwell, Burnett, Bechtel and Park.

Furthermore, dependent claim 18 depends from independent claim 13 and recites additional limitations. For the same reasons discussed above, the Applicants submit that claim 18 is also patentable and not rendered obvious by the combination of Markwell, Burnett, Bechtel and Park and is allowable. As such, the Applicants respectfully request the rejection be withdrawn.

D. Claim 19

The Examiner rejected claim 19 in the Office Action under 35 U.S.C. § 103 as being unpatentable over Markwell in view of Burnett and Bechtel and in further view of Smith, et al. (U.S. Patent Publication No. 2004/0169585, published on September 2, 2004, hereinafter referred to as "Smith"). The Applicants respectfully traverse the rejection.

The teachings of Markwell, Burnett and Bechtel are discussed above. Smith teaches a method and apparatus for pest deterrence. (See Smith, Abstract).

The Examiner's attention is directed to the fact that Markwell, Burnett, Bechtel and Smith, alone or in any permissible combination, fail to disclose the novel alarm unit that utilizes an application specific integrated circuit (ASIC) for selecting an audio frequency for an audio warning signal, where the audio

frequency is a sweep frequency of approximately 2500 Hertz (Hz) to 4000 Hz, as positively claimed by the Applicants' independent claim 13. (See *supra*). As discussed above, the alleged combination (as taught by Markwell, Burnett and Bechtel) simply does not teach or suggest an alarm unit that utilizes an application specific integrated circuit (ASIC) for selecting an audio frequency for an audio warning signal, where the audio frequency is a sweep frequency of approximately 2500 Hertz (Hz) to 4000 Hz.

Moreover, Smith does not bridge the substantial gap left by Markwell, Burnett and Bechtel because Smith also fails to teach or suggest an alarm unit that utilizes an application specific integrated circuit (ASIC) for selecting an audio frequency for an audio warning signal, where the audio frequency is a sweep frequency of approximately 2500 Hertz (Hz) to 4000 Hz. Smith only teaches a method and apparatus for pest deterrence. Thus, for all of the above reasons, the Applicants respectfully contend that claim 13 is not made obvious by the combination of Markwell, Burnett, Bechtel and Smith.

Furthermore, dependent claim 19 depends from independent claim 13 and recites additional limitations. For the same reasons discussed above, the Applicants submit that claim 19 is also patentable and not rendered obvious by the combination of Markwell, Burnett, Bechtel and Smith and is allowable. As such, the Applicants respectfully request the rejection be withdrawn.

Conclusion

Thus, the Applicants submit that all of these claims now fully satisfy the requirements of 35 U.S.C. §103. Consequently, the Applicants believe that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues in any of the claims now pending in the application, it is requested that the Examiner telephone Mr. Kin-Wah Tong, Esq. at (732) 842-8110 x130 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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